

SOUTH AFRICAN VERBENACEÆ.

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The account of the South African Verbenaceæ contained in the *Flora Capensis* (vol. v., pp. 180 *et sqq.*) was based upon materials preserved in the principal British Herbaria supplemented by specimens lent from other European collections. Among the South African material kindly placed at my disposal by Dr. Bolus, Dr. MacOwan, Dr. Kolbe, Dr. Schönland, and Mr. Medley Wood I have found certain new species, as well as good specimens of hitherto imperfectly known species, of which detailed descriptions are given below. *Bouchea incisa* and *Clerodendron reflexum* are at present only recorded from Tropical Africa.

GEN. LIPPIA, Linn.

LIPPIA PEDUNCULATA, sp. n.

Fruticulus rectus ramis subteretis, striatis, hispido-scabridis. *Folia* opposita, brevissime petiolata, ovata vel elliptico-ovata, basim attenuata, apice obtusa vel sub-acuta, crenato-serrata, rugosa, supra hispidulo-scabrida, infra in nervis hispido-scabrida, profuse glandulifera. *Spicæ* tum globosæ, denique cylindricæ, axillares, solitaires geminatæve, pedunculis longis tenuibus hispidis suffultæ. *Bracteæ* oblongæ, basim truncatæ, apice subito acuminatæ vel caudato-acuminatæ, utrinque præsertim marginibus hispidæ, flores haud superantes. *Calyx* perspicue 2-lobatus, 4-nervatus, extus dense molliterque villosus, intus glaber; lobi vix tubo æquantes, 2-nervati, plus minusve perplexe 2-dentati. *Corolla* extus supra medium villosa, intus in faucibus puberula.

KALAHARI REGION: Transvaal; without precise locality, *J. H. McLea* in *Herb. Bolus*.

A woody perennial with erect, subterete, striate, hispido-scabrid branches. *Leaves* opposite, very shortly petioled, ovate or elliptic-ovate, narrowed at the base, obtuse or subacute, rugose, crenate-serrate, roughly hispidulous above, hispid on the nerves beneath, gland-dotted, 3-5 cm. long, 1-1.5 cm. broad; petiole 2 mm. long. *Bracts* broadly oblong, abruptly acuminate or caudate-acuminate, truncate at the base, hispid on both surfaces and especially along the margins, not exceeding the flowers, 3-4.5 mm. long, 2-2.5 mm. broad. *Calyx* conspicuously 2-lobed, 4-nerved, softly villous without, 1.5-2 mm. long; lobes almost as long as the tube, 2-nerved, more or less obscurely 2-toothed. *Corolla* villous above the middle externally, puberulous in the throat, 4-5 mm. long.

L. pedunculata has affinities both with *L. scaberrima* and *L. asperifolia*, being apparently more closely allied with the former. The most marked characters which separate it from *L. scaberrima* are found in the 4-toothed calyx, the smaller bracts, the more pronounced hairiness, and the comparatively smoother surface of the whole plant. From *L. asperifolia* it differs in the 4-toothed calyx, the larger bracts and spikes, and the less hairy, rougher, and larger leaves.

GEN. BOUCHEA, Cham.

The following descriptions of three* new species of *Bouchea* and an amended description of *B. glandulifera* invalidate the key to the section *Chascanum* † to which all these species belong. For the convenience of students using the *Flora Capensis*, a revised key for that part of the genus is here given. ‡

Section 2. CHASCANUM. Ripe fruit not separating spontaneously into cocci; areole basal or on the anterior face; flowers bracteolate.

Areole basal:

- Leaves toothed (6) **cuneifolia**.
 Leaves entire (7) **latifolia**.

* *B. incisa* is at present known only from a locality within the tropics. It is, however, included here, as it may confidently be expected to occur in extra-tropical Transvaal.

† *Flora Capensis*, vol. v., 198, 199.

‡ The old species are numbered as in *Flora Capensis*.

Areole anterior :

Flowering calyx-tube not exceeding 1 cm. :

Fruiting spike exceeding 10 cm. :

Bracts and calyx-tube puberulous but without capitate glands(8) **garepensis.**

Bracts and calyx-tube with capitate glands, otherwise glabrous.....(10) **glandulifera.**

Fruiting spike not exceeding 7 cm. :

Leaves crowded :

Leaves sessile, whorled (rarely opposite).....(9) **cernua.**

Leaves petioled, opposite**cæspitosa.**

Leaves distant, opposite :

Nearly all leaves entire.....**integrifolia.**

Leaves deeply serrate**cæspitosa.**

Leaves deeply pinnati-partite with linear segments(13) **pinnatifida.**

Flowering calyx-tube exceeding 1 cm. :

Leaves cuneate or oblong-cuneate, entire except at the rounded apex.....(11) **namaquana.**

Leaves ovate-oblong with distantly toothed margins, less than 3 cm. long(12) **pumila.**

Leaves pinnatifid or incised, 6-7 cm. long**incisa.**

BOUCHEA GLANDULIFERA, H. H. W. Pearson in Thiselton-Dyer
Flora Capensis, v. 204.

[This species was originally described from an immature specimen (*Schlechter* 76). The following amended description is based upon perfect specimens in the herbaria of Dr. Bolus and Dr. Schönland.]

Descriptio emendata: Fruticulus glaberrimus, ramosus laxè. *Folia* opposita, petiolata, oblonga subrhomboideave, obtusa, marginibus obtuse incisus, nervis lateralibus obscuris. *Racemus* terminalis, simplex, spicoideus, confertus, bracteatus. *Bractee* anguste lineares, acutæ, marginibus membranaceis, glandulis minutis capitatis pedicellatis instructis; bracteolæ setulosæ, glabræ. Flores pedicellis tenuibus suffulti. *Calycis* tubus rectus, prominente striatus, glandulis capitatis instructus, cæterum glaberrimus; dentes parvi, acuti, glanduliferi. *Corollæ* tubus arcuatus, extus glaber, intus præsertim in faucibus hispido-villosus. *Antheræ* filamentis glanduliferis suffultæ. *Fructus* maturus nigricans ex coccis cohærentibus 2 constatus, oblongus, basim latior, posteriore paullo arcuatus, anteriore areola lata instructus.

KALAHARI REGION: Little Bushmanland; Stickland, *Schlechter* 76.

WESTERN REGION: Little Namaqualand; I'us, 2,800 ft., *Schlechter* 11,410.

A loosely branched glabrous shrub, 30-60 cm. high; internodes 4-6 cm. long. *Leaves* opposite, oblong or subrhomboid, obtuse, with

obtusely incised margins, glabrous, 1.5–5.5 cm. long, 0.5–2.5 cm. broad; petiole slender, 0.75–2 cm. long. *Raceme* spicoid, up to 25 cm. long (in fruit). *Bracts* linear, acute, with membranous margins, beset with minute stalked capitate glands, 4–5 mm. long; bracteoles reduced to bristles, glabrous, 1 mm. long. *Pedicels* of the flowers 1–2 mm. long. *Calyx-tube* straight, ridged, beset with minute glands, otherwise glabrous, 8–10 mm. long; teeth small. *Corolla-tube* curved, glabrous on the outside, hispid-villous within especially in the throat, 2 cm. long. *Fruit* black when ripe, of 2 cohering cocci, broader at the base than above, curved on the posterior face, with a broad anterior areole, 2–3 mm. long, 2 mm. broad at the base.

B. glandulifera is closely related to *B. garepensis*, from which, however, it appears to be sufficiently distinct in its lobed leaves and gland-beset bracts and calyces.

BOUCHEA CÆSPITOSA, sp. n.

Planta parva, lignosa, cæspitosa, pubescentia hispidulosa densa reflexa vestita. *Radix* lignosa, recta, altissima. *Folia* opposita, conferta, petiolata, triangulari-ovata, obtuse 7–9-serrata -pinnatifidave, basim attenuata, apice obtusa, subcoriacea, nervis lateralibus principiis obscuris 6–8 utrinque, dense hispidula. *Spica* terminalis, conferta, pauciflora. *Bractea* lineares, obtusæ hispidulæ; bracteolæ setulosæ, hispidulæ. *Flores* sessiles. *Calycis* tubus (in fructu) gibbosus, minute subæqualiterque 5-dentatus, extus hispidulus, intus glaber. *Fructus* ex coccis cohærentibus 2 constatus, oblongus, posteriore paullo arcuatus, anteriore areola excavata instructus.

WESTERN REGION: Lesser Namaqualand; I'us, 2,800 ft. *Schlechter* 11425, in *Herb. Bolus*.

A small deeply rooted tufted perennial about 4 cm. high, hispidulous with reflexed hairs. *Leaves* opposite, crowded, triangular-ovate, 7–9-serrate or -pinnatifid, with obtuse lobes and apex, densely hispidulous, 2.5–3 cm. long, about 1.5 cm. broad; petiole .75–1.25 cm. long. *Spike* terminal, crowded, few-flowered, 1 cm. long. *Bracts* 3–4 mm. long; bracteoles 2 mm. long. *Flowers* sessile. *Calyx-tube* gibbous in fruit, minutely 5-toothed, hispidulous without, glabrous within, 7–9 mm. long. *Corolla* not seen. *Fruit* of 2 cohering cocci, oblong, somewhat curved on the posterior face, with an anterior areole, 4–5 mm. long.

B. cæspitosa is a distinct species widely separated by its short calyx and small fruit from *B. pumila*, to which it bears a superficial resemblance. It should probably be placed near *B. pinnatifida*, from which it is at once distinguished by its leaf-characters.

In view of the very dry region in which Schlechter's specimen was gathered, the cæspitose habit is possibly not to be regarded as a character of specific value.

BOUCHEA INTEGRIFOLIA, sp. n.

Fruticulus basi paullo ramosus, ramis quadrangularibus parce hispidulis. *Folia* opposita, sessilia, simplicia, integra vel rarius versus apicem irregulariter 1-2 acute serrata, lineari-oblonga, basim plus minusve attenuata, apice acuta vix echinata, subcoriacea, marginibus crassis, perspicue 1-nervata, glabra vel parcissime hispidula, profuse glandulis instructa. *Racemus* spicoideus, divaricatus, confertus, terminalis vel axillaris, glabrescens vel parce hispidulus. *Bracteæ* lineari-lanceolatæ, acutæ, marginibus hispidis; bracteolæ 2, subulatæ, acutæ, marginibus parcissime hispidis. *Flores* pedicellis suffulti. *Calyx* 5-angularis, subæqualiter breviterque 5-dentatus, extus glaber, intus pubescens. *Corollæ* tubus arcuatus, extus glaber, intus faucibus hispidulus; lobi oblonga, apicibus late rotundati emarginative. *Antheræ* late triangulares, basim paullo lobatæ, filamentis glabris suffultæ. *Fructus* oblongus, ex coccis cohærentibus 2 constatus, posteriore arcute arcuatus, areola excavata anteriore instructus.

COAST REGION: Knysna, *Newdigate* 86, in *Herb. MacOwan*.

A shrub, 25-30 cm. high, with angular sparsely hispid stems; internodes 1.5-2 cm. long. *Leaves* opposite, sessile, simple, entire or rarely with 1-2 acute serrations near the apex, linear-oblong, narrowed in the upper third to a hard acute apex, glabrous or with a very few coarse hairs, profusely glandular on both surfaces, 2.5-3 cm. long, 3-4 mm. broad. *Raceme* spicate, 3-6 cm. long. *Bracts* 6-8 cm. long; bracteoles 2-4 mm. long. *Pedicels* 2-4 mm. long. *Calyx-tube* 5-angular, glabrous without, pubescent within, 7-9 mm. long. *Corolla-tube* curved, 10-12 mm. long. *Fruit* of 2 coherent cocci, with an anterior areole, strongly curved, 4 mm. long.

B. integrifolia appears to be most nearly related to *B. cernua*, from which it is easily distinguished by its opposite, entire, acute leaves.

BOUCHEA INCISA, sp. n.

Fruticulus ramis quadrangularis hispidis pilis reflexis. *Folia* opposita, petiolata, simplicia, late oblonga, obtuse 7–9 pinnatifida vel vix pinnatipartita, basim attenuata petiolis decurrentia, apice obtusa vel subacuta, subcoriacea, marginibus hispido-ciliatis, nervis lateralibus principiis utrinque 6–8, minute hispidula, glandulosa; petiolus latus, supra canaliculatus. *Spica* simplex, axillaris, pauciflora, conferta, hispidula. *Bracteæ* subulatæ, hispidulæ, bracteolæ bracteis similes. *Flores* sessiles. *Calycis* tubus 5-angularis, subæqualiter 5-dentatus, extus hispidulus, intus puberulus; dentes subulati, acuti, hispiduli. *Corollæ* tubus rectus, extus glaber, glandulosus, intus villosus. *Staminum* filamentæ hispidulæ. *Fructus* oblongus, rectus, ex coccis cohærentibus 2 constatus, areola excavata anteriore instructus.

TROPICAL AFRICA: Northern Transvaal; Sand River, 2,500 ft., *R. Schlechter* 4594, in *Herb. Bolus*.

A low shrub with stout angular stems hispid with reflexed hairs; internodes 1–4 cm. long. *Leaves* opposite, petioled, broadly oblong, incised (the 6–8 lateral lobes extending about half-way to the midrib), minutely hispidulous, ciliate along the margins, with an obtuse or sub-acute apex, 6–7 cm. long, 3–4 cm. broad; petiole 1.5–2 cm. long. *Spike* unbranched, axillary, few-flowered, 3–4 cm. long. *Bracts* subulate, 5–6 mm. long; bracteoles 2 mm. long. *Flowers* sessile, crowded. *Calyx-tube* hispidulous without, puberulous within, 1.5 cm. long; teeth subulate, 1–1.5 mm. long. *Corolla-tube* straight, villous within, 2–2.2 cm. long. *Fruit* oblong, straight, of 2 cohering cocci, with an anterior areole, 7 mm. long.

B. incisa is related to *B. pumila*, from which it conspicuously differs in the large pinnatifid leaves.

GEN. VERBENA, Linn.

VERBENA PULCHELLA, *Sweet, Brit. Flow. Gard.*, ser. 1, vol. iii., t. 295.

A small much-branched shrub with ascending branches. *Leaves* decurrent on the short petiole, pinnatifid-laciniate with linear, somewhat acute, entire lobes, hirsute with adpressed scattered stiff hairs. *Spike* pedunculate, terminal, usually solitary, sub-canescens; bracts lanceolate, acuminate. *Calyx* roughly pubescent, bearing at the angles shortly stalked disc-shaped glands, about 5 mm. long. *Corolla* violet, twice as long as the calyx-tube,

bearded within at the insertions of the anthers, otherwise glabrous. *Anthers* with scarcely exerted recurved, hooked appendages. *DC. Prodr.* xi. 552 (sub *V. tenera*, Spreng.).

EASTERN REGION: Natal; Edendale, 2,500 ft. *T. R. Sim ex Herb. Natal.*

This species, for the determination of which I am indebted to Kew, is a native of Uruguay and the Argentine. Mr. Sim notes that it is abundant at Edendale. I have no information as to the circumstances under which it was introduced.

V. pulchella is easily distinguished from other South African species by the presence of the glandular appendages of the anthers.

GEN. CLERODENDRON, Linn.

CLERODENDRON (§ CYCLONEMA) PILOSUM, sp. n.

Suffrutex stirpibus pilosis tenuibus adscendentibus subangularibus ab collo subterraneo ligneo ortis. *Folia* opposita, petiolata, membranacea, late ovata vel triangulari-ovata, basim rotundata vel vix attenuata, apice obtusa vel rotundata, marginibus integris, pilosa præsertim nervis marginibusque. *Cymæ* axillares, 1-2-floræ. *Flores* pedicellis pilosis suffulti; bracteolæ 2, oppositæ, lineares. *Calyx* subanthesin campanulatus (? tandem accrescens), 5-angularis, 5-lobatus, extus pilosus intus glandulifer. *Corollæ* tubus rectus, in faucibus villosus; lobi, superiores oblongi ellipticive, apice rotundati; anterior late spathulatus, concavus. *Ovarium* 4-lobatum, glanduliferum, cæterum glabrum.

EASTERN REGION: Transkei Division; Kentani, *Miss Alice Pegler*, 164, in *Herb. Kolbe*.

A pilose undershrub, 30-40 cm. high. *Stems* slender, ascending, subangular, arising from a woody underground rootstock. *Leaves* opposite, broadly ovate or triangular-ovate, rounded or slightly attenuate at the base, obtuse or rounded at the apex, entire, pilose especially on the nerves beneath, 2.3-2.4 cm. long, 1.4-1.9 cm. broad; petiole 2-3 mm. long. *Cymes* 1-2-flowered, in the axils of the leaves. *Pedicels* slender, pilose, 1-1.4 cm. long. *Bracteoles* 2, opposite, linear, 1 mm. long. *Calyx* during flowering campanulate, 5-angled, 5-lobed, pilose without, glandular within; tube 2.5 mm. long; lobes oblong or oblong-lanceolate, equalling the tube. *Corolla-tube* straight, villous in the throat, otherwise glabrous, hardly exceeding the calyx-tube; posterior lobes oblong or elliptic, rounded

at the apex, 4 mm. long; anterior broadly spathulate, concave, 5 mm. long. *Ovary* glandular, otherwise glabrous. *Drupe* not seen.

C. pilosum is related to *C. hirsutum* (Pearson in *Fl. Cap.* l.c. 221) from which it is separated by its broad ovate leaves, straight corollatube, and perfectly glabrous ovary. These may, however, prove to be extreme forms of a very variable species.

CLERODENDRON (§ CYCLONEMA) REFLEXUM, sp. n.

Frutex ramis subangularibus, striatis pubescentibus. *Folia* opposita vel subopposita, petiolata, membranacea, ovata, oblonga vel subrhomboidea, basim cuneata, apice acuta vel plus minusve apiculata, marginibus alte serratis vel inciso-serratis (lobis multis paucisve, latis, subapiculatis) vel infra medium (rarius omnino) integris, puberula, nervis principiis lateralibus adscendentibus 4-6 utrinque. *Panicula* terminalis bracteata, pauciflora, pedunculata. *Bracteæ* bracteolæque parvæ, polymorphæ. *Flores* pedicellis tenuibus brevibus suffulti. *Calyx* subanthesin campanulatus, tandem accrescens, alte 5-lobatus, pubescens, profuse glandulifer; lobi tum recti, tum patentes, denique reflexi, oblongi, apice obtusi vel rotundati. *Corollæ* tubus arcuatus, extus glaber, intus præsertim in faucibus villosus; lobi oblongi, patentes, apice rotundati. *Stamina* longe exserta. *Ovarium* obscure 4-lobatum glanduliferum, glabrum. *Drupa* 4-lobata.

TROPICAL AFRICA: Rhodesia; Bulawayo, *Eyles*, 1006, in *Herbb. MacOwan, Bolus*.

A pubescent shrub with subangular striate branches. *Leaves* opposite or subopposite, petioled, ovate oblong or subrhomboid, acute or more or less apiculate, cuneate at the base, deeply serrate or inciso-serrate with broad subapiculate lobes or entire below the middle (rarely along the whole margin), 5-9.5 cm. long, 2-5.5 cm. broad; petiole 1.2 cm. long. *Panicle* terminal, few-flowered; peduncle 3-5 cm. long. *Flowers* shortly pedicelled. *Calyx* campanulate during flowering, accrescent, deeply 5-lobed, pubescent and profusely gland-dotted, 4 mm. long; lobes oblong, at first erect, later reflexed, obtuse or rounded at the apex, 3 mm. long. *Corollatube* curved, glabrous without, villous within especially in the throat, about 1 cm. long. *Stamens* far exserted. *Ovary* gland-dotted. *Drupe* 4-lobed, about 1 cm. in diam.

This species is allied to *C. Wilmsii* from which it may be distinguished by its deeply lobed calyx and its larger leaves which are not gland-dotted.